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AMSAT NEWS SERVICE
ANS-215

The AMSAT News Service bulletins are a free, weekly news and information service of AMSAT, The Radio Amateur Satellite Corporation. ANS publishes news related to Amateur Radio in Space including reports on the activities of a worldwide group of Amateur Radio operators who share an active interest in designing, building, launching and communicating through analog and digital Amateur Radio satellites.

The news feed on http://www.amsat.org publishes news of Amateur Radio in Space as soon as our volunteers can post it.

Please send any amateur satellite news or reports to:
ans-editor(a)amsat.org

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http://www.amsat.org/mailman/listinfo/ans

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SB SAT @ AMSAT $ANS-215.01
ANS-215 AMSAT News Service Weekly Bulletins

AMSAT News Service Bulletin 215.01
>From AMSAT HQ KENSINGTON, MD.
DATE 2020 August 02
To All RADIO AMATEURS
BID: $ANS-215.01

ISS MAI-75 SSTV Activity Planned For Aug 4-5

Russian cosmonauts will transmit amateur radio Slow Scan Television (SSTV) images from the International Space Station (ISS) during August 4-5 on 145.800 MHz FM (likely using PD-120).

On July 9, ESA Education had Tweeted: “We are expecting the ISS to transmit pictures in the next weeks for the 45th anniversary of the Apollo-Soyuz test project. This is a perfect opportunity to try this activity for yourself!”
https://twitter.com/ESA__Education/status/1281140713237946370

Apollo–Soyuz was the first international space mission, carried out

jointly by the United States and the Soviet Union in mid-July 1975.

An announcement made July 27 on the ARISS SSTV Blog says: The final crew schedule for the week of Aug 3-9 was released recently and it showed a MAI-75 activity scheduled for Aug 4 and 5. This is soon after the Space X Demo-2 undock so changes to that event could impact the schedule.

The current dates and times of the planned activity are as follows:
Aug 4 (12:25-18:10 UTC) is setup and day 1 operations.
Aug 5 (11:15-18:45 UTC) is day 2 operations and close out.

This is the Moscow Aviation Institute SSTV experiment that is active for orbital passes over Moscow, Russia. It has traditional been PD-180 or PD-120 and transmitting on 145.800 MHz.

Source ARISS STV Blog http://ariss-sstv.blogspot.com/

The ISS puts out a strong signal on 145.800 MHz FM and a 2m handheld with a 1/4 wave antenna will be enough to receive it. Many FM mobile and base station rigs can be switched been wide and narrow deviation FM filters. For best results you should select the filter for wider deviation FM (25 kHz channel spacing). Handhelds all seem to have a single wide filter fitted as standard.

The space agency ESA has released a video ‘How to get pictures from the International Space Station via Amateur Radio’ along with a collection of Tutorial videos explaining how to receive ISS Slow Scan TV (SSTV) pictures for different computers and mobile devices
https://amsat-uk.org/2020/07/08/esa-promote-amateur-radio-iss-sstv/

Read the Raspberry Pi article Pictures from space via ham radio
https://www.raspberrypi.org/magpi/pictures-from-space-via-ham-radio/

ISS SSTV info and links https://amsat-uk.org/beginners/iss-sstv/

[ANS thanks AMSAT-UK for the above information]

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Anthony Rizi, NR1Z, #628
Angus Alexander, KJ7KOJ, #629

The AMSAT Sexagesimal Satellite Communications Achievement Award is given for 60 satellite contacts:

Stephan Greene, KS1G, #187
Casey Tucker, KI7UNJ, #188

The AMSAT South Africa Satellite Communications Achievement Award is for 25 different stations on Phase 2 (LEO) satellites:

Anthony Rizi, NR1Z, #US230
Casey Tucker, KI7UNJ, #US231
Angus Alexander, KJ7KOJ, #US232

The Robert W. Barbee Jr., W4AMI Satellite Operator Achievement Award is awarded for the submission of 1,000 satellite contacts on OSCAR-6 or later satellites:

W4AMI Award (1,000-4,000)

Mitchell Whitman, N4DCW, #110
Mark Johns, K0JM, #111
David Hoffman, KL1XI, #112
Phillip Sauvey, AK7DD, #113
Dennis Love, N7EGY, #114
Kell Bodholt, KI7UXT, upgrade to 2000

AMSAT Rover Award is based on a point system and is awarded to those who put grids on the air away from their home QTH:

Rover	Call
#054	N0TEL
#055	AK7DD
#056	KE0WPA

GridMaster Award is presented to those who confirm QSOs with all 488 grids in the Continental U.S.:

GridMaster	Call
#11	KO4MA
#12	N4UFO
#13	W5CBF

To see all the awards visit http://www.amsat.org and click on Services then Awards.

[ANS thanks Bruce Paige, KK5DO, AMSAT Director Contests and Awards for

the above information]

How Many Satellite Awards Have Been Issued?

When Bruce Paige, KK5DO, AMSAT Director Contests and Awards, was asked by a ham last week how many awards he has issued, his response was, "You know, I really had no idea." Paige took over doing the AMSAT awards in May, 2001. Most of the awards have computer records. However, the Satellite Communicator Club award, he did not start keeping track of until 2003.

So, you ask, how many awards has he issued? Paige says,
"Satellite Communicator 407+ but my records only go back to 2003

South Africa Satellite Communication Achievement	167
AMSAT Satellite Communication Achievement	273
Sexagesimal (60 QSOs)	64
Century (100 QSOs)	24
W4AMI (1,000 QSOs)	81
W4AMI endorsements (each additional 1,000 QSOs)	66
W4AMI 5000 (5,000 QSOs)	25
Rover	55
GridMaster	13

and if I added correctly, it comes out to 1,165 plus whatever Satellite Communicator awards were issued in 2001 and 2002. That's a lot of certificate paper, a lot of ink and a bunch of envelopes and stiffeners to get them safely to their owners."

Do you have one on your wall? If not, maybe you should submit for one or more so that one day I will hit 2,000 or 3,000 who knows. Visit the awards page at https://www.amsat.org/awards-2/

[ANS thanks Bruce Paige, KK5DO, AMSAT Director Contests and Awards for the above information]

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N9FN	303	403
HP2VX	351	377
WB7VUF	319	370
KC9UQR	301	332
W4ZXT	252	327
WA9JBQ	326	326
W4DTA	263	275
AK7DD	New	255
N1PEB *	138	255
K4RGK	175	214
VE6WK	New	207
S57NML	179	205
AC9O	108	204
YV1DIG	146	200
AA4FL	181	187
N3CAL	160	171
WD9EWK (DM23)	137	152
N7AME	128	148
WB7QXU	New	140
K3HPA	102	128
VE2NGO	100	128
HB9WDF	New	114
N5EKO	102	108
KP4RV	100	105
XE1R	New	105
KB9STR	New	104
N2ZN	New	103
IK1IYU	New	101
KF6JOQ	New	101
N5MIG	New	101
LU3FCA	New	100
M0KDS	New	100
N6RVI	New	100

* For some reason, this call dropped off the list from February to now.

If you find errors or omissions. please contact me off-list at W5RKN
at W5RKN dot com. This list was developed by comparing the ARRL .pdf
listings for the two months. It's a visual comparison so omissions
are possible. Apologies if your call was not mentioned.

Thanks to all those who are roving to grids that are rarely
on the birds. They are doing most of the work!

[ANS thanks Ron Parsons, W5RKN, for the above information]

First Demonstration Of Orbit Control On A 1U CubeSat

The University Wuerzburg Experimental Satellite 4 (UWE-4) successfully
used its propulsion system in order to conduct orbit control. The 1U
CubeSat, developed and built at the Chair for Robotics and Telematics,
is equipped with the electric propulsion system NanoFEEP which has been
developed by TU Dresden.

Several manoeuvres have been performed within 11 days between June 23
and July 3, 2020 such that the altitude of the CubeSat was reduced by
more than 100 meters, compared to an average of 21 meters with natural
decay. This marks the first time in CubeSat history that a 1U CubeSat
changed its orbit using an on-board propulsion system.

As chance would have it, the team of UWE-4 received a conjunction data
message (CDM) in the morning of July 2, 2020 from the United States Air

Force’s 18th Space Control Squadron. A conjunction of UWE-4 with a non-operational Iridium satellite (ID: 34147) in the morning of July 5, 2020 with a minimum range of about 800 meters was a threat to the safety of UWE-4. An analysis has shown that the altitude of UWE-4 would already be below the Iridium satellite at the time of conjunction. Thus the on-going altitude lowering manoeuvre could only improve the situation and can be considered as a collision avoidance manoeuvre. No further CDMs have been issued regarding this possible conjunction. An analysis of the orbit of the two spacecraft after July 5, 2020 results in a closest approach of more than 6000 meters.

Lowering the altitude of a spacecraft in low earth orbit (LEO) is equivalent to a reduction of its lifetime, since satellites in LEO usually burn up during re-entry due to the friction with the Earth’s atmosphere. Thus, this experiment is a concept demonstration of a de-orbiting manoeuvre shown at the smallest class of spacecraft in LEO. Today, there is no commitment to carry a propulsion system for spacecraft. However, due to the vastly increasing number of satellites in mega constellations such obligations are being discussed in the space agencies of several space faring countries. The experiment of UWE-4 presents a de-orbiting solution for the fraction of space debris of operational but unused satellites of today and for the mega constellations of tomorrow.

[U.S. regulations make the ability to de-orbit a requirement for HEO amateur satellites in the future -- Ed.]

Stay tuned for more updates on UWE-4 and the upcoming launch of NetSat, a formation flying nano-satellite mission from the Center for Telematics which is expected to be launched September 2020!

Kind regards, The UWE-4 Team

UWE-4: First NanoFEEP thruster ignition
https://amsat-uk.org/2019/03/04/uwe-4-first-nanofeep-thruster-ignition/

UWE-4 435.600 MHz
https://bit.ly/39FdrPt

[ANS thanks AMSAT-UK for the above information]

Burns Fisher, WB1JF, Featured Speaker at AMSAT SA Symposium

AMSAT of South Africa (AMSAT SA) has converted its annual Space Symposium into a live online event to take place from 08:00z to 17:00z on Saturday 22 August with a lunch break to have your sandwiches at home.

Burns Fisher, WB1JF, IHU Software Engineer and key volunteer in the construction of the Fox1 series of satellites, will join the symposium from the USA with two presentations. In one of his papers Burns will present a small, easy-to-deploy telemetry station called Fox-in-a-Box, a good way for amateurs to get started in satellite telemetry collection with a modest investment.

There will be features about AMSAT OSCAR 7, the longest operating amateur satellite, as well as about SATNOGs and how to track and decode thousands of small satellites in orbit with simple hardware/software requiring minimal outlay. Dr. Hannes Coetzee, ZS6BZP, and his team will present the latest developments in the AfriCUBE project.

To book, visit www.amsatsa.org.za. Members of the SARL or AMSATSA and may register before 15 August for a cost of only R30. Non-members may

register prior to this date for a cost of R100 (approximately $6 U.S.) but the AMSAT SA website only offers instructions for registration via postal mail. Contact AMSAT SA to explore other possible options.

[ANS thanks SARL News and JoAnne Maenpaa, K9JKM, for the above information]

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[ANS thanks Charlie Sufana, AJ9N, one of the ARISS operation team mentors for the above information]

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please send an email to ambassadors (at) amsat (dot) org.

[ANS thanks Robert Bankston, KE4AL, AMSAT VP-User Services for the above information]

Satellite Shorts From All Over

+ Technical papers are solicited for presentation at the ARRL/TAPR Digital Communications Conference (DCC), September 11 - 13. Due to the coronavirus pandemic, this year's conference will be held online. Papers will be published in the Conference Proceedings; authors do not need to participate. Submit papers by August 15 via email to Maty Weinberg, KB1EIB. (ANS thanks ARRL for the above information)

+ AMSAT-UK has announced the OSCAR Satellite QSO Party, aimed at encouraging radio amateurs around the world to get on the air and make contacts via satellite during summer in the Northern Hemisphere. While points are given per contact, AMSAT-UK says the OSCAR Satellite QSO Party is not a contest. The event starts at 0000 UTC on August 1 and continues until 2359 UTC on September 22.
(ANS thanks AMSAT-UK for the above information)

+ W5KUB's high-altitude balloon went down around July 21 between Greenland and Norway after 72 days aloft and more than three trips around Earth. "It got stuck in the Arctic for several weeks, making loops," Tom Medlin, W5KUB, said. "We are getting ready to launch W5KUB-21, an SBS-13 balloon with lithium polymer (LiPo) battery. Testing on ground is showing that we are getting 24-hour tracking. We hope to launch that in the next week or two."
(ANS thanks ARRL for the above information)

+ NASA's latest rover, Perseverance, launched to Mars on July 30 carrychips with 10.9 million names submitted by people all over the world. Anyone can sign up to send their name on a future Mars mission at https://mars.nasa.gov/participate/send-your-name/mars2020/
(ANS thanks NASA for the above information)

+ Kerry Banke, N6IZW, was featured in an article published in the La Mesa Courier newspaper of La Mesa, Calif. on July 24. The article highlighted Kerry's association with ARISS, particularly his work on the new special power supply that converts the space station power to the levels that are required by ham radio equipment aboard the ISS. See the full story at https://lamesacourier.com/space-radio/
(ANS thanks Clint Bradford, K6LCS, for the above information)

+ NASA and its international partners have assigned crew members for Crew-2, which will be the second operational SpaceX Crew Dragon flight to the International Space Station as part of NASA?s Commercial Crew Program. Crew-2 is targeted to launch in spring 2021. NASA astronauts Shane Kimbrough and Megan McArthur will serve as spacecraft commander and pilot, respectively, for the mission. JAXA (Japan Aerospace Exploration Agency) astronaut Akihiko Hoshide, KE5DNI, and ESA (European Space Agency) astronaut Thomas Pesquet, KG5FYG, will join as mission specialists.
(ANS thanks NASA for the above information)

+ The 34th Annual Small Satellite Conference, SmallSat 2020, is going virtual, August 1-6, 2020. Admission is free of charge at: https://smallsat.org/conference/registration
(ANS thanks The Orbital Index for the above information)

+ The public disclosure copy of AMSAT's 2019 IRS filing (Form 990) has
  been posted to the AMSAT website at:
  https://www.amsat.org/audit-and-other-financial-reports/

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In addition to regular membership, AMSAT offers membership in the President's Club. Members of the President's Club, as sustaining donors to AMSAT Project Funds, will be eligible to receive additional benefits. Application forms are available from the AMSAT Office.

Primary and secondary school students are eligible for membership at one-half the standard yearly rate. Post-secondary school students enrolled in at least half time status shall be eligible for the student rate for a maximum of 6 post-secondary years in this status. Contact Martha at the AMSAT Office for additional student membership information.

73 and Remember to help keep amateur radio in space,
This week's ANS Editor, Mark D. Johns, K0JM

k0jm at amsat dot org